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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/611,991	07/03/2003	Takahiro Kitano	KPO-164/DIV	3407
23353	7590	09/07/2004	EXAMINER	
RADER FISHMAN & GRAUER PLLC LION BUILDING 1233 20TH STREET N.W., SUITE 501 WASHINGTON, DC 20036			TADESSE, YEWEBDAR T	
			ART UNIT	PAPER NUMBER
			1734	

DATE MAILED: 09/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/611,991

Applicant(s)

KITANO ET AL.

Examiner

Yewebdar T Tadesse

Art Unit

1734

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18 is/are allowed.
- 6) ☒ Claim(s) 16, 17, 19 and 21-25 is/are rejected.
- 7) ☒ Claim(s) 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1. Claims 16-17, 19, 21-25 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 13 of U.S. Patent No. 6,616,760 in view of Kitano et al (US 6,383,948) and Nagashima et al (US 6,673,155). U.S. Patent No. '760 discloses a film forming unit for discharging a coating solution from a coating solution discharge nozzle toward a substrate to form a layer on a surface of the substrate comprising: a press type pump (diaphragm type pump) supplying the coating solution to the coating solution discharge nozzle, a pressure detector (a displacement gauge) for detecting the amount of press of the press member of the press-type pump (a detection mechanism detecting changes in the amount of push-on of the pump, a controller operating based on a detected value from the displacement gauge (a detecting mechanism). As to claims 16, 19, 21 and 24-25, '760 lacks claiming a transferring mechanism for transferring the nozzle with a transferring controller moving the nozzle along a continuous path, a substrate holding portion for

horizontally holding the substrate and moving relative the nozzle, a mask member positioned above the substrate and a pressure detector for detecting pressure in flow path for coating solution between the pump and the coating solution discharge nozzle. Kitano et al ('948) discloses (see Figs 1-3 and column 9, lines 14-27) nozzle/wafer driving section 36 having X and Y slider for moving (sliding) the nozzle with a control section C controlling the movement of the nozzle applying coating solution on a surface of the substrate along a continuous path and a substrate holding portion (2) moving relative to the nozzle and a mask member (4) positioned above the substrate. Kitano et al also discloses (see column 18, lines 3-10, column 19, lines 7-14 and Fig 19) pressure-detecting section 124 with a filter F capable of removing air bubbles in flow path between the pump and the nozzle. It would have been obvious at the time the invention was made to include pressure detector with a filter in the flow path for coating solution between the pump and the coating solution discharge nozzle in '760 to apply the desired thickness of the film by monitoring the pressure of the coating solution. It would also be obvious at the time the invention was made to include a transferring mechanism for transferring the nozzle with a transferring controller moving the nozzle along a continuous path, a substrate holding portion moving relative to the nozzle and a mask member positioned above the substrate in '760 to appropriately position the dispensing nozzle above the substrate in uniformly applying a liquid film. As to claim 17, '760 lacks teaching a controller controlling an alarm-generating portion. However, a controller controlling operation of an alarm generating member is well known in the art; for instance – Nagashima et al (US 6,673,155) discloses an alarm mechanism in

communication with the controller receiving detected signals. It would have been obvious at the time the invention was made to include an alarm generating portion in communication with the controller of '760 receiving the detected change value of the push-on pump to notify the operator about the operation condition so as an appropriate correcting action proceeds. A diaphragm type pump is considered to equivalent to a press-type pump because Kitano et al ('948) teaches (see column 18, lines 3-10, column 19, lines 7-14 and Fig 19) pump (122), which is a press type pump as being a bellow or a diaphragm pump. As to claim 22, '760 lacks teaching a mixing tank for mixing a coating solution of high viscosity. Kitano et al ('948) teaches (see Fig 16 and column 16, lines 1-28) mixing apparatus 50 for generating resist having different viscosity. It would have been obvious at the time the invention was made to include a mixing tank for mixing a coating solution of high viscosity in '760 to change viscosity of the resist appropriately as taught by Kitano et al ('948). As to claim 23, in '760 the coating solution is capable of being a resist solution.

Allowable Subject Matter

2. Claim 18 is allowed.
3. Claim 20 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter: Takeshita et al (US 6,248,168) discloses (see Fig 29) a film forming apparatus having a cleaning portion (453) for cleaning the coating solution discharge nozzle (450), wherein the nozzle is moved above the cleaning portion. However, Takeshita et al does not disclose a press type pump in communication with the cleaning portion. Prior art of record does not disclose or suggest a film forming unit for discharging a coating solution toward a substrate to form a layer on a surface of the substrate, comprising: among others, a press type pump sending the coating solution to the discharge nozzle, a cleaning portion for cleaning the coating solution discharge nozzle, wherein the coating solution discharge nozzle being moved to the cleaning portion by the drive mechanism for cleaning of the coating solution discharge nozzle when the amount of press of the press member of the press type pump goes out of a preset reference range. As to claim 20, Prior art of record does not disclose or suggest the combination - a film forming unit for discharging a coating solution toward a substrate to form a layer on a surface of the substrate, comprising: among others, a press type pump sending the coating solution to the discharge nozzle, a pressure detector for detecting pressure in a flow path of the coating solution between the press type pump and the coating solution discharge nozzle and a filter provided in the flow path for removing air bubbles from the coating solution, wherein the filter is made of a porous resin.

Response to Arguments

5. Applicant's arguments filed 06/10/2004 have been fully considered but they are not persuasive. Applicants argued that the double patenting rejection is improper because this application is a divisional application of now U.S. Patent No. 6,616,760 in which the examiner issued a restriction Requirement. Examiner respectfully disagrees because the claims have been changed in material from the claims at the time the restriction requirement was made. For instance, see claim 13 of US'760 and claim 1 of the instant application for their difference from the original claims of the application 09/736,397 (now U.S. Patent No. 6,616,760). See also MPEP 804.01 for more information about where the prohibition of double patenting rejections under 35 U.S.C. does not apply.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yewebdar T Tadesse whose telephone number is (571) 272-1238. The examiner can normally be reached on Monday-Friday 8:00 AM-4: 30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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